Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of	)	
	)	
Advanced Television Systems	)	
and Their Impact Upon the	)	**MM Docket No. 87-268**
Existing Television Broadcast	)	
Service	)	
	)	
***En Banc* Hearing**	)	

COMMENTS OF BRUCE M. ALLAN

SENIOR VICE PRESIDENT, BUSINESS DEVELOPMENT

THOMSON CONSUMER ELECTRONICS, INC.

December 12, 1995

SUMMARY

Thomson endorses the Commission's twin goals of preserving and promoting the availability of universal, free, over-the-air television to consumers, while ensuring the most efficient utilization of spectrum, including recapturing as much spectrum as possible in contiguous blocks after the transition to ATV. Thomson believes that the rapid adoption of ATV, especially HDTV, will best serve both of these goals, bringing quantum improvements in entertainment television and a host of other valuable services to American consumers.

Thomson believes that the principal use of the transition channel should be to upgrade the nation's terrestrial television system to digital high-definition capability, delivering the technical quality that will be essential if free over-the-air television is to compete effectively in the years and decades to come. However, once this principal use is assured, broadcasters should be encouraged to develop and test new services that go beyond traditional bounds and respond to the information age needs of consumers.

Thomson has conducted extensive market research to guide its development programs and marketing efforts aimed at the introduction of a variety of video products including digital television. Thomson's experience with Direct Satellite Service ("DSS") strongly suggests that key factors in assuring the successful introduction of terrestrial digital television will be the early availability of substantial amounts of digital programming and the degree to which video and audio quality are improved. Moreover, the DSS experience supports Thomson's view that many Americans, including many of relatively modest means, will be willing to invest in digital television, even in the early years when price premiums are relatively high.

Additional market research recently conducted for Thomson affirms the fact that consumers are ready for the superior pictures and sound of digital television. In addition to a strongly favorable reaction of consumers to HDTV picture quality, the survey found that they are willing to pay substantial premiums for widescreen digital HDTV receivers.

Specifically, the study found that improved picture quality is the most important attribute in determining willingness to pay for HDTV. Before seeing HDTV, prospective

large-screen TV buyers were expecting to spend $500 on average to upgrade their main television. After seeing HDTV, on average these consumers indicated a willingness to spend an additional $1,200 to upgrade their main television to HDTV. In all of the consumer electronics research of which Thomson is aware, this represents the highest premium consumers have ever expressed a willingness to pay. Consumers appreciate and value the superior picture and audio quality of HDTV.

Thomson currently estimates that retail price premiums for HDTV as compared to large-screen NTSC sets of the same picture height will be about $1,000 to $1,500 at the beginning of the transition to HDTV, and will fall to about $500 to $750 within five years as high volumes and design and production improvements allow manufacturers to drive costs out of their products. By the tenth year, HDTV premiums could be as low as $250 to $350--and even less for small-screen receivers.

While these HDTV premiums are substantial, especially in the early years, it is important to remember that at the time color television was introduced, color TVs cost about as much as a new automobile. Thomson believes the quantum improvement that HDTV represents over NTSC is comparable to the difference between black-and-white TV and the first color TVs, and today's digital TV technology is even more susceptible to cost reductions over time. Thus, it is critically important to attract the early-adopter segment (35% of prospective large-screen buyers) to HDTV in the early years of digital television in order to build the volumes that will permit cost reductions that in turn will make digital television, including HDTV, more affordable and attractive to ever larger segments of the consumer market.

Other important facts reinforce the likelihood of rapid consumer acceptance of digital television, including 1) the seven-year cycle in which consumers traditionally replace their main viewing televisions, 2) the current 30% annual growth rate in sales of large-screen, high-end television sets, and 3) the tidal wave of digital technology that is sweeping over the consumer electronics industry, starting with DSS in 1994 and continuing with digital wireless

cable services, digital camcorders, digital Hi-Fi stereo VCRs, and digital video discs all expected to hit the market in 1996--and all creating significant synergies with digital television.

These rapid developments in digital video products and services make it clear that to remain competitive in the future, it will be essential for broadcasters to increase significantly the picture and audio quality of the programming they deliver to American households. HDTV delivers quantum improvements in video and audio quality that will motivate consumers to invest in digital television. By requiring minimum HDTV broadcasts, the Commission can ensure early and frequent availability of HDTV programs, the most significant variable associated with rapid consumer acceptance of digital television. Not only will this hasten the day when all Americans will have dramatically improved television service, it will allow the Commission to recapture valuable NTSC spectrum much sooner. If the Commission wants the NTSC spectrum back, it should jump-start the conversion to digital television by requiring minimum amounts of HDTV.

In addition to picture quality, program content will play an important role in the adoption of ATV. To this end, broadcasters should be given wide latitude in exploiting the flexibility of the Grand Alliance system to provide SDTV programs as well as ancillary and supplementary services. The new functionality of these services will generate additional consumer and advertiser interest, as well as new revenues for broadcasters, all helping to finance and accelerate the conversion to digital television.

The Commission should adopt several other policies to promote the rapid introduction of HDTV/ATV and the earliest possible reclamation of valuable spectrum, including 1) limiting initial eligibility for ATV licenses to existing broadcasters, 2) making modest modifications to its simulcast requirements, 3) establishing a nominal target date and evaluating it periodically to determine when broadcasters should cease NTSC transmissions, and 4) repacking the ATV spectrum at the end of the transition period in order to free up large, contiguous, nationwide blocks of spectrum.

The Commission should not mandate requirements for the consumer electronics equipment required to support the introduction of digital television. The Commission need not require digital television sets to be capable of receiving and displaying analog NTSC broadcasts, nor should it impose any requirement to limit or ban the sale of NTSC receivers, nor require labels on NTSC sets warning consumers that at some point their NTSC set will no longer receive over-the-air broadcasts. Thomson would support a requirement that all digital receivers *receive* HDTV, provided that it is coupled with the requirement that broadcasters transmit minimum amounts of HDTV programming, but the Commission should not regulate the manner in which the received digital signals are *displayed.*

The consumer electronics industry has extensive experience with the successful introduction of new products and services into consumers' homes. Key ingredients for successful introductions are 1) broad availability of programming, 2) broad availability of receiver hardware, and 3) a clear and consistent message to consumers--a lack of confusion. Examples of successful introductions include color TV once widespread programming became available, the VCR once pre-recorded programs became easily available, and FM stereo, NTSC stereo, compact disc audio, and DSS. For the introduction of ATV to be successful, a clear focus on HDTV is required, with strong programming and receiver support. Beyond this, SDTV and the many other services made possible by the flexibility of the Grand Alliance system will provide additional incentives to broadcasters and consumers. A mixed or equivocal ATV message without any emphasis on HDTV will confuse consumers and delay the adoption of this innovative new technology and the valuable services it provides.

For all these reasons, the Commission should make the minor modifications to its ATV policies proposed herein and in the November 20, 1995 comments of Thomson and the Grand Alliance, reinforcing HDTV as the centerpiece ATV application while giving broadcasters flexibility in using the ATV channel for other services as well. The Commission should also proceed as expeditiously as possible to adopt the ATV broadcast transmission standard based on the Grand Alliance system and recommended by the Advisory Committee, to assign ATV

transition channels to broadcasters, and to do all else possible to promote the rapid introduction of HDTV and other ATV applications. Unequivocal leadership from the Commission now will galvanize private industry to make the investments necessary to turn the vision of digital television into a reality for the American public.

Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of	)	
	)	
Advanced Television Systems	)	
and Their Impact Upon the	)	**MM Docket No. 87-268**
Existing Television Broadcast	)	
Service	)	
	)	
***En Banc* Hearing**	)	

COMMENTS OF BRUCE M. ALLAN

SENIOR VICE PRESIDENT, BUSINESS DEVELOPMENT

THOMSON CONSUMER ELECTRONICS, INC.

I. Introduction

On November 20, 1995 Thomson Consumer Electronics, Inc. ("Thomson") submitted detailed comments in response to the Fourth Further Notice of Proposed Rulemaking and Third Notice of Inquiry ("Notice") in this advanced television ("ATV") proceeding, and also joined in the comprehensive comments of the *digital* HDTV Grand Alliance of which Thomson is a member. My comments today focus specifically on the impact of digital television, especially high-definition television ("HDTV"), on consumers, including market research on the variables that will affect consumer acceptance of digital television, and Commission policies that can ensure that consumers' needs are met while promoting a rapid transition to this promising new technology. Thomson is also a member of the Electronic Industries Association ("EIA"), the 71-year-old trade association representing the electronics manufacturing industries. EIA also filed extensive comments on the Notice on November 20, and wishes to endorse these comments as well.

Thomson believes that as the Commission proceeds with its consideration of ATV issues in general and HDTV in particular, the Commission should be guided by several basic principles. First, the Commission should promote the most rapid possible adoption of ATV and its centerpiece application, HDTV, by broadcasters and consumers alike. Second, to the maximum extent possible it should let the marketplace function freely as broadcasters, broadcast equipment makers and manufacturers of receivers, converters and other consumer equipment implement the ATV technical standard. And finally, in meeting its minimum regulatory responsibilities, the Commission should adopt ATV policies that ensure that HDTV will in fact reach the marketplace, where it can be evaluated fairly and its future determined by U.S. consumers.

Thomson endorses the Commission's twin goals of preserving and promoting the availability of universal, free, over-the-air television to consumers, while ensuring the most efficient utilization of spectrum, including recapturing as much spectrum as possible in contiguous blocks after the transition to ATV. Thomson believes that the rapid adoption of ATV, especially HDTV, will best serve both of these goals, bringing quantum improvements in entertainment television and a host of other valuable services to American consumers.

II. Background

Headquartered in Indianapolis, Indiana, Thomson is a major manufacturer and marketer of color TV receivers, related video hardware, and a full range of consumer electronics products. Perhaps best known for its RCA, GE and ProScan brands, Thomson is the market leader in U.S. sales of color TV receivers, VCRs and most recently digital set-top receivers.

Thomson is also the largest employer in the U.S. consumer electronics industry, with nearly 10,000 Americans working in six major manufacturing sites and with sales and distribution facilities across the nation. Thomson manufactures all of its large-screen color TVs in this country. These sets are designed in Thomson's digital engineering facility in

Indianapolis and manufactured in its Bloomington, Indiana color TV assembly plant. Key components such as picture tubes, printed circuit boards, and cabinetry are produced at other Thomson facilities in the U.S.

Building on its manufacturing and marketing expertise in the color television business, Thomson has also established itself as the industry leader in digital television in the United States. For example, Thomson designed and developed the digital encoding and decoding hardware required to bring the Digital Satellite System ("DSS") direct broadcast satellite service to the American public. Thomson believes this to be the most successful introduction ever of a consumer electronics product, with the first one million dishes and receivers sold in just eleven months. In addition, Thomson recently won a competitive bid and was awarded a contract by TeleTV to provide three million digital set-top converters to support the introduction of digital television services by Bell Atlantic, NYNEX and Pacific Bell.

Most important, Thomson has been heavily involved in and made substantial contributions to the development of digital over-the-air broadcast television technology. Thomson and its Grand Alliance partners have invested in excess of $300 million to develop this world-leading digital television technology.

After an arduous but productive eight-year process, the U.S. has developed a superior all-digital HDTV system, leap-frogging earlier efforts in Japan and Europe. Very soon the Commission will have the opportunity to ratify the work of its Advisory Committee, and set into motion the process of upgrading the nation's television infrastructure by adopting the ATV standard for broadcast television based on the Grand Alliance system and recommended by the Advisory Committee.

III. The Commission should permit flexible use of the channel while helping to ensure the survival of free over-the-air television.

The Grand Alliance system offers broadcasters unprecedented flexibility to provide consumers with additional choices--HDTV, multiple digital standard definition television

(SDTV) programs, ancillary digital services, or various combinations of these services. Thomson believes that the principal use of the conversion channel should be to upgrade the nation's terrestrial television system to digital high-definition capability, delivering the technical quality that will be essential if free over-the-air television is to compete effectively in the years and decades to come. However, once this principal use is assured, broadcasters should be encouraged to develop and test new services that go beyond traditional bounds and respond to the information age needs of consumers. Not only will such new applications enhance broadcasters' ability to compete, they will also promote a more rapid transition to digital broadcasting by increasing consumer demand while providing additional advertising and other revenues. Permitting such flexible use of the channel will provide both broadcasters and consumers with added incentives to adopt HDTV.

A. Picture quality and availability of programming are key variables in consumer acceptance of digital television.

Thomson has conducted extensive market research to guide its development programs and marketing efforts aimed at the introduction of a variety of video products including digital television. The market experience of DSS is instructive for the Commission and the industry in considering the factors that will be important to a successful introduction of digital terrestrial television broadcasts. In Thomson's surveys of its DSS customers, two of the most frequent reasons given for purchasing DSS are the greater quantity and diversity of programming and the improved picture quality available from this digital system. Another important finding of Thomson's DSS research is that there is a substantial demand for DSS across a wide range of demographics. For instance, nearly 40% of early DSS buyers had annual household incomes below $40,000. Thus, Thomson's experience with DSS strongly suggests that key factors in assuring the successful introduction of terrestrial digital television will be the early availability of substantial amounts of digital programming and the degree to which video and audio quality are improved. Moreover, the DSS experience supports

Thomson's view that many Americans, including many of relatively modest means, will be willing to invest in digital television, even in the early years when price premiums are relatively high.

Additional market research recently conducted for Thomson and others by Northwestern University affirms the fact that consumers are ready for the superior pictures and sound of digital television. This study included in-depth interviews with consumers who had the opportunity to view and hear both SDTV and HDTV, and the results are very positive. In addition to a strongly favorable reaction of consumers to HDTV picture quality, the survey found that they are willing to pay a substantial premium for a widescreen digital HDTV receiver. In fact, the most common question of those surveyed was "when can I get one?."

Specifically, the study found that improved picture quality is the most important attribute in determining willingness to pay for HDTV. For example, for the 35% of prospective large-screen TV buyers who formed an "early-adopter" segment, picture quality was four times as important as price in influencing their purchase decision.

Before seeing HDTV, prospective large-screen TV buyers in the study were expecting to spend $500 on average to upgrade their main television. After seeing HDTV, on average these consumers indicated a willingness to spend an additional $1,200 to upgrade their main television to HDTV. In all of the consumer electronics research of which Thomson is aware, this represents the highest premium consumers have ever expressed a willingness to pay. Consumers truly appreciate and value the superior picture and audio quality of HDTV.

Thomson currently estimates that retail price premiums for HDTV as compared to large-screen NTSC sets of the same picture height will be about $1,000 to $1,500 at the beginning of the transition to HDTV, and will fall to about $500 to $750 within five years as high volumes and design and production improvements allow manufacturers to drive costs out of their products. By the tenth year, HDTV premiums could be as low as $250 to $350--and even less for small-screen receivers. While projections ten years out are necessarily

speculative, history shows that cost and price reductions have consistently exceeded expectations for every major consumer electronics product ever introduced.

While these HDTV premiums are substantial, especially in the early years, it is important to remember that at the time color television was introduced, color TVs cost about as much as a new automobile. Thomson believes the quantum improvement that HDTV represents over NTSC is comparable to the difference between black and white TV and the first color TVs, and today's digital TV technology is even more susceptible to cost reductions over time. Thus, it is critically important to attract the early-adopter segment to HDTV in the early years of digital television in order to build the volumes that will permit cost reductions that in turn will make digital television, including HDTV, more affordable and attractive to ever larger segments of the consumer market.

Other important facts reinforce the likelihood of rapid consumer acceptance of digital television. First, consumers traditionally replace their main viewing televisions about every seven years, so their prospective decisions will focus on an incremental investment to upgrade to the quantum improvements HDTV provides. In addition, while current overall U.S. color TV sales remain at a steady and healthy rate at just under 25 million units annually, the large-screen, high-end category is growing over 30% per year. Thus, consumers are already moving up to large-screen TVs in great numbers, and we expect the availability of HDTV to accelerate that trend markedly because of the striking performance improvements that are most evident on large screens. Finally, the introduction of new technologies like DSS and the growing interest in wireless cable services are fueling a dramatic growth in sales of home theater systems. Indeed, a tidal wave of digital technology is sweeping over the consumer electronics industry, starting with DSS in 1994 and continuing with digital wireless cable services, digital camcorders, digital Hi-Fi stereo VCRs, and digital video discs all expected to hit the market in 1996.

In many ways, digital HDTV is the granddaddy of all of these applications, and while these other digital video developments act as catalysts driving the industry toward HDTV, at

the same time a broadcast standard for digital HDTV can establish a flexible, unifying platform that can accelerate the adoption of these other digital video products and services. Indeed, now that the Grand Alliance system has surpassed the demanding specifications of the Commission's Advisory Committee and even the high expectations of its own developers, a clear intention by the Commission and broadcasters to implement the ATV/HDTV standard recommended by the Advisory Committee will create certainty and direction in the marketplace and provide a powerful catalyst to widespread development, product introduction, and consumer acceptance of digital television and related digital video products. Such public, formal commitments to digital television will also help stimulate the early availability of the hardware necessary for broadcasters to make the conversion to ATV.

B. The Commission should require broadcasters to provide a minimum amount of HDTV on their ATV spectrum.

All of these rapid developments in digital video products and services make it clear that to remain competitive in the future, it will be essential for broadcasters to increase significantly the picture and audio quality of the programming they deliver to American homes.

HDTV delivers quantum improvements in video and audio quality that will motivate consumers to invest in digital television. By requiring HDTV broadcasts, the Commission can ensure early and frequent availability of HDTV programs, the most significant variable associated with rapid consumer acceptance of digital television. Experience again teaches the lesson. The adoption of color TV by consumers proceeded at a snail's pace for the first ten years when minimal amounts of broadcast programming were available. When yearly programming hours more than doubled abruptly in 1964 with programs from all three networks, the penetration of color TVs took off like a rocket.

Early and frequent availability of HDTV programs will build growing marketplace momentum and encourage consumers to purchase HDTV sets. This, in turn, will create the

economies of scale associated with high volume manufacturing that will drive down receiver costs and prices. Falling prices will further spur consumer demand, maintaining and accelerating the momentum. The more HDTV programming that is offered, the faster the transition to digital will proceed. Not only will this hasten the day when all Americans will have dramatically improved television service, it will allow the Commission to recapture valuable NTSC spectrum much sooner. If the Commission wants the NTSC spectrum back, it should jump-start the conversion to digital television by requiring HDTV.

In light of these benefits, Thomson urges the Commission to require broadcasters to offer minimum amounts of HDTV programming each week, focusing on prime time and weekend afternoon time periods. One important benefit of this approach would be that it will position retailers to demonstrate high-definition television performance and to educate consumers regarding the many benefits of the high-definition system, thereby facilitating broad consumer adoption.

C. Ancillary and supplementary services should be permitted.

In addition to picture quality, program content will play an important role in the adoption of ATV. To this end, broadcasters should be given wide latitude in exploiting the flexibility of the Grand Alliance system to provide programming in the SDTV format as well as ancillary and supplementary services. The new functionality of these services should generate additional consumer and advertiser interest, as well as new revenues for broadcasters, all helping to finance and accelerate the conversion to digital television.

In particular, the flexibility of the Grand Alliance ATV system coupled with consumers' strong interest in entertainment television is likely to accelerate the introduction of interactive entertainment and information services to the large segment of the U.S. population that has not yet been attracted to personal computers. At the same time, sophisticated personal computer users stand to benefit from the high data rate (20 Mbps per TV channel) pathway into the home that terrestrial ATV signals will provide.

IV. Initial eligibility for ATV licenses should be limited to existing broadcasters.

Because the temporary assignment of an additional 6 MHz channel to each existing broadcaster will bring about a smooth and rapid transition to digital HDTV, Thomson wholeheartedly endorses the Commission's current plan to limit the initial eligibility for ATV licenses to existing broadcasters. However, in the unlikely event that existing broadcasters are uninterested or unable to make the transition to ATV, including HDTV, within a reasonable transition period determined by the Commission, the ATV spectrum should be made available to new entrants who make a commitment to broadcast HDTV and other digital television services.

V. The Commission should modify its simulcast requirement in order to promote the rapid transition to HDTV and ATV and the recovery of NTSC spectrum.

Modest rules governing the relationship between a broadcaster's NTSC and ATV programs can facilitate both the transition to ATV and the rapid recovery of spectrum at the end of the transition period. Early in the transition, broadcasters should be given wide freedom to focus on HDTV and take full advantage of the capabilities of this new technology to differentiate it from NTSC. On the other hand, requiring some ATV content which is identical to that available on the NTSC channel can help facilitate the transition by allowing direct comparisons of NTSC and HDTV/ATV picture quality, helping consumers to evaluate the performance improvements.

VI. The Commission should establish a nominal target date and evaluate it periodically to determine when broadcasters should cease NTSC transmissions.

In determining the length of the transition period, the Commission's basic approach of setting a target date, conducting periodic reviews to monitor the progress of ATV implementation, and making adjustments, if necessary, remains fundamentally sound. Although the Commission can do much to promote the rapid implementation of ATV and to

focus the industry on a practical timetable for the conversion, no one can predict with certainty how fast consumers will adopt the new technology.

In its intermediate reviews and in its final decision to fix the end of the transition period, the Commission should look at household penetration in broadcast reception areas to determine the population that is no longer dependent solely on over-the-air NTSC broadcasting. The Commission should evaluate this benchmark periodically and adjust the "date certain" end of NTSC transmissions--forward or backward--to the point in time where it is projected to be 80 percent. By periodically reviewing the progress of implementation against this benchmark, the Commission should be able to fix a final date certain upon which NTSC transmissions will cease, giving two or three years of advance notice. This should give the viewers who remain dependent on terrestrial NTSC broadcasts ample time to obtain digital receivers or converters, or to subscribe to nonterrestrial television services.

The Commission can be confident that manufacturers will provide a variety of products and the appropriate financing arrangements to help consumers obtain the digital receivers and converters needed to complete the transition. The Commission should leave these arrangements to manufacturers and their retail distributors, and should not involve broadcasters in any sort of joint or cooperative effort to market equipment to consumers.

VII. At the end of the transition period the Commission should repack the ATV spectrum in order to free up large, contiguous, nationwide blocks of spectrum.

In making ATV channel assignments, it is vital that the FCC look ahead to the recovery of one of each broadcaster's 6 MHz channels at the end of the transition period. With careful planning, the Commission will be able to recover more spectrum and to organize the recovered spectrum into large, contiguous, nationwide blocks that will be far more valuable than a patchwork quilt of locally available spectrum.[1] Moreover, planning now for

[1]Proposals have recently been made in Congress that aim to reduce the federal budget deficit by requiring the Commission to auction the television spectrum currently planned for the conversion to ATV. Such proposals would not only render broadcast ATV stillborn and undermine the ability of free over-the-air

the end of the transition will encourage industry investment and development of new services that can take advantage of the freed-up spectrum, and will reinforce the temporary nature of a second channel being assigned to each broadcaster.

VIII. The Commission should not mandate requirements for the consumer electronics equipment required to support the introduction of digital television.

To succeed in the marketplace, television set manufacturers must produce sets capable of receiving and displaying any combination of NTSC and ATV services desired by consumers. For many years to come, digital television sets will be designed to receive and display analog NTSC broadcasts without any FCC requirement to do so. Consumers will want to view both digital and analog broadcasts without requiring two side-by-side sets, and they will want to view analog VCR tapes on their new digital televisions.

Thomson intends to build and market digital receivers that *receive* all ATV formats, including HDTV. We expect that other receiver manufacturers will do the same, without any FCC requirement to do so. However, the Commission should not regulate the manner in which the received digital signals are displayed, but should rely on marketplace forces and give manufacturers the latitude to differentiate their products and meet varying consumer needs. Even though a mandate is unnecessary, Thomson would support a requirement that all digital receivers *receive* HDTV, provided that it is coupled with the requirement endorsed above that broadcasters transmit minimum amounts of HDTV programming.

Thomson believes that any requirement to limit or ban the sale of NTSC receivers would be particularly ill-advised. During and even after the transition to digital, there may well be a demand for NTSC sets driven by preexisting cable services, wireless cable services, direct broadcast satellite services, and VCRs.

---

television to compete technically in the decades to come, but would lock in an inefficient usage of scarce spectrum and grossly reduce the funds that ultimately could flow to the U.S. Treasury by auctioning recaptured, repacked television spectrum at the conclusion of the transition to ATV.

Thomson strongly urges the Commission not to require labels on NTSC sets warning consumers that at some point their NTSC set will no longer receive over-the-air broadcasts. The success of consumer electronics manufacturers and retailers depends on educating their customers. As in the past, the industry can be relied upon to inform consumers and to minimize any confusion caused by the conversion to digital television. Negative labeling would only add confusion to the process.

IX. Conclusion

The consumer electronics industry has extensive experience with the successful introduction of new products and services into consumers' homes. Key ingredients for successful introductions are 1) broad availability of programming, 2) broad availability of receiver hardware, and 3) a clear and consistent message to consumers--a lack of confusion. Examples of successful introductions include color TV once widespread programming became available, the VCR once pre-recorded programs became easily available, and FM stereo, NTSC stereo, compact disc audio, and DSS. For the introduction of ATV to be successful, a clear focus on HDTV is required, with strong programming and receiver support. Beyond this, SDTV and the many other services made possible by the flexibility of the Grand Alliance system will provide additional incentives to broadcasters and consumers. A mixed or equivocal ATV message without any emphasis on HDTV will confuse consumers and delay the adoption of this innovative new technology and the valuable services it provides.

For all these reasons, the Commission should make the minor modifications to its ATV policies proposed herein and in the November 20, 1995 comments of Thomson and the Grand Alliance, reinforcing HDTV as the centerpiece ATV application while giving broadcasters flexibility in using the ATV channel for other services as well. The Commission should also proceed as expeditiously as possible to adopt the ATV broadcast transmission standard based on the Grand Alliance system and recommended by the Advisory Committee, to assign ATV transition channels to broadcasters, and to do all else possible to promote the rapid

introduction of HDTV and other ATV applications. Unequivocal leadership from the Commission now will galvanize private industry to make the investments necessary to turn the vision of digital television into a reality for the American public.

Respectfully submitted,

Bruce M. Allan

Bruce M. Allan
Senior Vice President, Business Development
Thomson Consumer Electronics Corporation

December 12, 1995